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THE PLANT DISEASE BULLETIN

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THE PLANT DISEASE SURVEY

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THE PLANT DISEASE BULLETIN

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SORGHUM DISEASES IN KANSAS

Since Kansas is an important state in the production of grain sorghum the following reports of sorghum diseases from Collaborator Melchers of Kansas are of particular interest.

Red spot. This spot which has been thought to be caused chiefly by Bacillus sorghi is extremely common on most varieties of sorghum. Causes most injury on Sudan grass, other varieties not materially injured. There are apparently other factors than B. sorghi concerned in the spotting of sorghums.

Stem decay. A decay of the stalk of sorghums was noticed this season. A similar trouble has been noticed other seasons in the western part of the state. Cultural studies have given a species of Fusarium. No inoculation work has been done to prove the pathogenicity of the organism obtained. So far this trouble has not been common.

Kernel smut (Sphacelotheca sorghi). Common in fields where seed treatment is not practiced. Percentages of heads destroyed will range from a trace to 50%, depending upon variety and conditions at planting time.

Head smut (Sphacelotheca reiliana) Not common, but occurs occasionally on Red Amber Sorgo, a variety which seems to be the most susceptible of any of the sorghums. Soils once infested seem to perpetuate the disease from season to season. Seems to have been most common in the vicinity of Hays, Kansas.

MISSOURI APPLE DISEASES

H. A. Cardinell of the Department of Horticulture, University of Missouri, under date of October 17, writes as follows concerning the apple disease situation in Missouri. On account of the unusual prevalence of diseases this has apparently been a bad year for this crop in that state.

"My orchard tour which was made during the month of August at a time when most of the diseases had made their appearance, showed some very striking facts which are being brought out by other states in their monthly statements to the Plant Disease Survey.

"There is without doubt, 75% more apple blotch in the state this year than there has ever been before in the history of Missouri horticulture.

"Regarding scab, I would estimate that there is between 33 and 35% more scab this year than at any time during the past four years which covers the full period of my record in this state.

"I have never seen cedar rust as destructive in this state as it is this year and it is more noticeable on Jonathan than on any other variety coming under my observation. By the 15th of August most vigorous Jonathan trees had lost 40% of their foliage through this disease alone even in orchards receiving three or four lime and sulphur sprays. (When near cedars).

"In summing up the season as a whole, it shows that only orchards that received four and five spraying applications have 60 to 70% of a commercially clean crop and orchards receiving two and three applications do not show more than 25% of their crop that could be graded as our commercial pack of Number 1 packages, which is a condition I have not seen before in this state.

NECTRIA GALLIGENA DAMAGING TO PEARS IN OREGON

This fungus seems to be of more importance in Oregon, both on pears and apples than in any other state.

Oregon: Infections this year were late spring or early summer infections and not so common as last year. - S. M. Zeller.

Reported by Howell, County Agent of Josephine County, as rather general and doing a great deal of damage. He reports a very bad attack on Surprise pear.

In some sections of western Oregon considerable damage is present in some orchards and certain varieties of pears. (Barss, October 1).

OTHER OREGON PEAR DISEASES

Fire blight (Bacillus amylovorus). Present in service berry and other pomaceous hosts in sections of the Willamette Valley but rare in orchards.

Very little of the disease found in Douglas County this year. - Fruit Inspector Armstrong.

Appeared in Josephine County in localized areas about June 10. Was at its height about June 25. Owing to clean-up measures, damage less than former years. Damage and cost of control probably not over $10,000 in county this year. - County Agent H. B. Howell.

Rather severe in Jackson County this year. Present in Hood River and Wasco Counties, but resulting damage in orchards not reported as serious for section as a whole. (Barss, October 1).

Black end (presumptive drouth trouble). (See Third Crop Pest and Horticultural Report, Oregon Station, page 154). Reported as quite extensive in

Wasco County on dry land (unirrigated) plantings of Bartlett and Howell.

Fruit Inspector in Douglas County reports but very little this year when it has been noticed only on Bartlett.

Prof. W. S. Brown saw quite a good deal of the trouble varying in severity in the Umpqua Valley on Bosc, Anjou, and Bartlett. (Barss, October 1).

Powdery mildew (Sphaerotheca leucotricha (?). Russet from this cause is extremely light - negligible - this year. Dry weather from early part of growing season on checked mildew while warm weather perhaps improved the action of sprays used early. (Barss, October 1).

Scab (Venturia pyrina). Present throughout western Oregon, but this year the damage is very small due to dry conditions existing through spring and summer. (Barss, October 1).

Stippen (non-parasitic). Reported only from Wasco County, severity not mentioned. May exist elsewhere. (Barss, October 1).

Spray injury. Lime sulfur russet slight this year even on susceptible varieties like Bosc and Comice. In Josephine County injury was noticeable where spraying was done on hot days. (Barss, October 1).

CLIMATIC AND SOIL CONDITIONS REDUCE QUALITY OF OREGON PRUNES

Gum spot very serious in many prune orchards in Marion County, according to fruit inspector, and present in all to some extent. Some orchards on flat heavy lands lost almost entire crop, he states. Reported also from other Willamette Valley sections and from Douglas County and Wasco County. Considerable internal browning of the flesh was prevalent also in these sections. Such conditions appear to have been connected with the very dry and hot growing season. (Barss, October 1).

RASPBERRY MOSAIC, LEAF CURL, AND BLUE STEM SITUATION AS REPORTED FROM NEW YORK

W. H. Rankin of the Geneva Agricultural Experiment Station has sent in the following information concerning these troubles as he has observed them in New York this season:

> Mosaic is the most common and destructive disease of red raspberries in central and eastern New York. The disease is extremely common. The variety Perfection, universally grown in Ulster and Orange Counties, is being abandoned. The percentage infection is so high that no attempt was made to select disease free plants of this variety. New plantings of disease-free foundation stock of other varieties are being made this fall in these counties. Losses due to mosaic, even in young plantings, have caused a condition where the annual crop did not return the expense. In some cases the grower has lost money. Due to this condition many plantings have been plowed out in the last two years. (October 15).
>
> A mosaic (presumed to be the same as on red varieties) is common on many varieties of black raspberries on the Experiment Station plots at Geneva. Aphis subiphila is very common on these varieties. (October 15).
>
> Leaf curl, according to observations and reports to date is rarely

found in New York. Only a few specimens have been seen. (October 15).

Blue stem (infectious), as described by R. B. Wilcox, Office of Fruit Disease Investigations, stationed in northern Ohio, is common in black and purple varieties on the Experiment Station grounds at Geneva. (October 15).

WESTERN BLUE STEM OF BLACK RASPBERRY (ACROSTOLAGMUS) NOW IN THE EAST

The blue stem of black raspberry as described by W. H. Lawrence (Washington Agr. Exp. Sta. Bul. 108: 1912.) is now definitely reported from the East. Dr. C. L. Shear reports the isolation of the fungus from material collected in Michigan this summer, R. B. Wilcox has collected the disease in Ohio, and W. H. Rankin writes as follows from New York, October 15. A similar disease was reported from Schenectady, New York in 1917 by the Survey collaborators of that state.

"Blue stem is a common disease in Dutchess County and at Geneva. It seems to spread very rapidly or else the sets from diseased canes are already diseased when they are planted. From the present conditions observed and according to growers statements, this disease has ruined the black raspberry industry in Dutchess County. Very few plantings remain."

OTHER RASPBERRY DISEASES REPORTED FROM NEW YORK

Crown gall is a common disease of the variety Columbian in Chautauqua County. Losses in yield were very noticeable in several plantings. this year due apparently to crown gall. (Rankin, October 15).

Powdery mildew (Sphaerotheca humuli (?)). A powdery mildew has caused a dwarfing of the tips of the green canes in several varieties of red and purple raspberries at Geneva. From 30 to 50% of the tips of the canes are affected. The leaves are very small, crumpled and often mottled. Only the conidial stage was found. The disease became evident during August. (Rankin, October 15).

Yellow rust (Kuehneola albida (Kuehn) P. Magn.). This rust is very common on several varieties of red and purple raspberries at Geneva. The older leaves are often killed. Uredinia are common on the petioles but are not found on the canes. Very little if any damage results. (Rankin, October 15).

ADDITIONAL REPORTS OF POTATO LATE BLIGHT

Vermont: Very general throughout the state. Only fields sprayed with exceptional thoroughness have escaped. Very little rot is reported so far. Acreage of certified seed reduced 25 to 50% on account of this disease. (Gilbert, October 15).

Connecticut: Appeared early and some considerable injury to late varieties by premature death of vines. Also caused more rot of tubers than usual. (Clinton, October 15).

New Jersey: Trace in Mercer County. (Cook, October 15).

Virginia: First noted at Blacksburg, August 14. Of little importance as vines were practically matured at this time. No other reports. (Fromme, October 15).

Michigan: Late blight was found fairly widespread in Upper Peninsula. The following counties have blight: Menominee, Mackinaw, Luce, Chippewa, Schoolcraft, Gogebic (trace), Baraga (potatoes wilting). Late blight was found to be general in those sections of the Upper Peninsula where the rainfall of July was four inches or more. (J. E. Kotila, October 15).

Wisconsin: More rot is showing up than the blight reported first indicated. However, rot is reported only from the heavier soil sections that had abundant rain. Will have minor effect on total state crop. Northeast and north central portion of state involved. (Vaughan, October 15).

EARLY BLIGHT OF POTATO

Although early blight (Alternaria solani) of potato has been rather generally reported, in most cases it does not seem to be of more importance than usual. In New Hampshire, Connecticut, and Michigan, however, it is said to be unusually prevalent, causing premature death of the plants in many fields in New Hampshire, and reducing the crop in Michigan, although to a less extent than in 1921. In Wisconsin it is prevalent on nearly mature foliage, and in Minnesota heavy infections are reported in the Red River Valley and in the northern part of the state.

The variety Green Mountain is mentioned as apparently most susceptible in Wisconsin. In two neighboring fields observed in Minnesota, Bliss Triumphs were very heavily infected and Ohios very little.

REPORTS OF POTATO SCAB

Virginia: Scab is increasing in importance in the Eastern Shore section. (Fromme, October 15).

Texas: Traces. Unimportant. (Taubenhaus, August 1).

Ohio: Reports from the present season's crop are just coming in. These indicate that the disease is very prevalent except in those fields where hill selection and seed treatment have been consistently practiced. (Detmers, October 15).

Wisconsin: Much less than last year. Not a serious factor in most sections of Wisconsin this season. (Vaughan, October 15).

South Dakota: Very prevalent, 1 to 100% loss, average 5 to 10%. Scab is very prevalent even in fields which have been treated well. Weather conditions must have some influence as well as soil conditions. (Evans, October 1).

Colorado: This disease has been noticed to be quite prevalent on the market,

but no report has been received stating it to be at all serious. (Learn, September 1).

RHIZOCTONIA ON POTATO; REPORTS FROM OHIO, WISCONSIN, AND SOUTH DAKOTA

Ohio: Very abundant. Occurs sometimes in the product of certified seed; as it is not recognized by the ordinary grower. (Detmers, October 15).

Wisconsin: About as usual. Less where seed was treated. (Vaughan, October 15).

South Dakota: Prevalent, 1 to 10% in many fields; not doing over 1% damage. Seems to be well in check. (Evans, September 1).

POWDERY SCAB (SPONGOSPORA SUBTERRANEA) REPORTED FROM MINNESOTA

Minnesota: Five percent of tubers lightly infected in a one-acre field of Irish Cobblers in St. Louis County. (Section of Plant Pathology, October 15).

AN INTERNAL BROWN SPOT OF POTATOES SERIOUS IN OREGON

Oregon: Mr. E. R. Jackman, inspector for potato certification, reports a serious potato trouble in which brown spots are present in the interior of the tuber as present in Malheur County. Many fields were graded down because of this and rather heavy financial loss resulted in some cases. It appeared to him more abundant in crops from certain lots of seed. (Barss, October 1).

CABBAGE DISEASES

Black rot (Bacterium campestre)

Vermont: There is apparently considerable trouble locally from this disease this year. (Gilbert, October 15).

New York: Common and serious on Long Island. Many young fields observed with 5 to 10% of the plants showing systemic attack due to infection through the roots very soon after the plants were set in the field. (Clayton, August 26).

Ohio: Losses have not been as great as last year. This is thought to be due to the extreme dry weather throughout August and September. (Thomas, October 15).

Wisconsin: General throughout state. Forty percent of plants diseased in some fields. Corrosive sublimate seed treatment coupled with seed bed and field rotation has given satisfactory control. (Vaughan, October 15).

Yellows (Fusarium conglutinans)

Ohio: The hot weather of the late season has favored this disease. Not so many specimens have come to our attention due to the fact that many growers consider the dry weather the cause of the trouble, yet the disease is fully as bad, if not worse than normal. (Thomas, October 15).

Michigan: Three reports of crop loss sent to department. (Department of Botany, October 15).

Wisconsin: No recent reports. New strain tests are satisfactory. (Vaughan, October 15).

Blackleg (Phoma lingam)

New York: One field on Long Island observed with 50% loss. Disease is not common. (Clayton, August 26).

Ohio: This disease is thought to have caused considerable loss this year in Ohio. It is frequently met with in markets and numerous specimens have come to our attention. (Thomas, October 16).

Wisconsin: A minor disease in most fields. A few fields visited in Outagamie County showed 50% plants infected. (Vaughan, October 15).

COTTON DISEASE REPORTS FROM SOUTH CAROLINA

Anthracnose (Glomerella gossypii). Apparently less abundant than usual, probably owing to a protracted drouth during the period when it usually develops most rapidly. A small patch of cotton planted with badly infested seed on the station farm had only a comparatively small amount of disease. (Ludwig, October 15).

Wilt (Fusarium vasinfectum). Three or four reports. This disease continues to spread in the Piedmont section. Was discovered this year on the station farm for the first time. (Ludwig, October 15).

Angular leaf spot (Bacterium malvacearum). Widespread as usual, but apparently not destructive anywhere. (Ludwig, October 15).

NEW YORK CELERY DISEASES

In 1921 New York shipped 3,084 carloads of celery. This number was exceeded only by Florida and California which sent out 4,172 and 3,387 cars respectively. The following notes from H. W. Dye on New York celery diseases are, therefore, of especial importance as far as the influence of diseases on the celery crop of the country is concerned:

"I have just recently returned from a two weeks trip through western New York state.

"Septoria blight of celery has occurred only occasionally in the past five years that I have been associated with the celery situation in western New York. Many fields this year are suffering severely from this blight. In occasional fields, I observed Cercospora blight to be decidedly destructive, but Septoria blight is general and destructive in many fields. Bacterial blight was also present in about the usual amount, but the prevailing serious blight this season was Septoria. It came as a considerable surprise to me. Those growers who applied a fungicide thoroughly, obtained perfectly satisfactory control even during the extremely favorable season for the development of blight."

HOW PREVALENT IS HELMINTHOSPORIUM BLIGHT OF CORN?

Attention is called to the reports of Helminthosporium blight of corn as reported from Connecticut, Delaware, and West Virginia in the September 15 and October 15 numbers of this Bulletin. More recent reports from Dr. G. P. Clinton of Connecticut indicate that this was the most serious disease of corn in the state this year, probably causing about 2% loss. The leaves were killed as if by early frost.

How general is this disease and is it causing much damage in other states? Complete information is desired on these points.

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